United States Patent [19]

Yamada et al.

[11] Patent Number: **5,103,400**

[45] Date of Patent: **Apr. 7, 1992**

[54] **DESTINATION GUIDANCE METHOD OF VEHICLE NAVIGATING**

[75] Inventors: **Takashi Yamada; Shoji Yokoyama; Koji Sumiya; Shuzo Moroto,** all of Anjo, Japan

[73] Assignees: **Kabushiki Kaisha Shinsangyokaihatsu; Aisin AW Co., Ltd.,** both of Japan

[21] Appl. No.: **724,475**

[22] Filed: **Jun. 28, 1991**

Related U.S. Application Data

[63] Continuation of Ser. No. 630,753, Dec. 21, 1990, abandoned, which is a continuation of Ser. No. 408,497, filed as PCT/JP88/01303, Dec. 23, 1988, abandoned.

[30] **Foreign Application Priority Data**

Dec. 28, 1987 [JP] Japan 62-333054

[51] Int. Cl.⁵ G06F 15/50
[52] U.S. Cl. .... 364/444; 364/449; 73/178 R; 340/990; 340/995
[58] Field of Search .... 364/443, 444, 449; 73/178 R; 340/988, 990, 995

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,646,089	2/1987	Takanabe et al.	364/449
4,763,270	8/1988	Itoh et al.	340/988
4,780,717	10/1988	Takanabe et al.	364/449
4,782,447	11/1988	Lieno et al.	364/449
4,796,189	1/1989	Nakayama et al.	340/990
4,812,845	3/1989	Yamada et al.	364/449
4,827,420	5/1989	Musa	364/449

Primary Examiner—Gary Chin
Attorney, Agent, or Firm—Lorusso & Loud

[57] **ABSTRACT**

A navigating apparatus which outputs information for guidance to a destination comprises an input device (1) for inputting a destination and a present position, a memory (4) in which guidance information is stored, an arithmetic unit (2) for determining optimum guidance information from the information input from the input device (1) and a display (3) for indicating the guidance information, the memory (4) having data of a plurality of parking lots at least in a destination and the arithmetic unit (2) serving to select the plurality of parking lots and guide the driver along the courses thereto in the destination. This apparatus enables the driver to go to a nearby parking lot by exploration of a course to the next parking lot at the shortest distance and guidance thereto even if a certain parking lot is full of cars in a destination.

6 Claims, 17 Drawing Sheets